

“Applicants can rebut a prima facie case of obviousness based on overlapping ranges by showing the criticality of the claimed range. “The law is replete with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims. . . . In such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range.” In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). See MPEP Section 716.02 - Section 716.02(g) for a discussion of criticality and unexpected results.”

The present invention, as claimed, recites that the gate insulating film is thicker than the gate electrode. Although the Examiner may submit that the ranges disclosed in Hisao make it possible for Hisao to disclose this relationship, the reality is that Hisao neither specifically describes this relationship nor the beneficial results provided therefrom. In fact, Hisao fails to discuss any relationship whatsoever between the gate insulating film thickness and the gate electrode thickness. Hisao, instead, merely discloses ranges for these elements, individually, omitting any discussion on their relationship between one-another or any accompanying special benefits.

Contrarily, the present application ascribes specific benefits to making the gate insulating film thicker than the gate electrode. Specifically, as disclosed on page 10, lines 1-14, making the thickness of the gate insulating film greater than the thickness of the gate electrode ensures that the benefits of reducing the thickness of the gate electrode below 100 nm is not offset. Making the insulating film thicker than the gate electrode reduces the difference in thermal condition between the gate electrode and the insulating substrate. This is a result far unexpected from anything disclosed in Hisao, and is more than sufficient to rebut the Examiner’s case of obviousness. Accordingly, for the reasons set forth above, Applicant submits that Claims 1 and 5 and all claims depending therefrom are in a condition for allowance.

### CONCLUSION

For at least the above reasons, Applicants respectfully submits that the present invention, as claimed, is patentable over the prior art. If the Examiner has any issues which

he believes can be expedited by a telephone conference, he is encouraged to telephone the undersigned Representative. All objections and rejections having been addressed, it is respectfully submitted that the present application is in condition for allowance, and a Notice to that effect is earnestly solicited. It is believed that any additional fees due with respect to the filing of this paper should be identified in any accompanying transmittal. However, if any additional fees are required in connection with the filing of this paper that are not identified in any accompanying transmittal, permission is given to charge Deposit Account 18-0013 in the name of Rader, Fishman & Grauer PLLC.

Respectfully submitted,

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